

CLAIMS

What is claimed is:

1. A hard disk drive (HDD) defect list searching method, comprising:
checking whether a target track is on a non-defective track list when a command to access the target track is applied;
obtaining defect information from the non-defective track list if the target track is on the non-defective track list;
searching for a defect list if the target track is not on the non-defective track list and obtaining defect information, including the number of defects existing between a starting track of a zone where the target track belongs and the target track and the number of defects in the target track, from the defect list; and
obtaining defect information on the target track and defect information on tracks ranging from the target track to a next defective track from the defect list and storing the defect information on the target track and the next defective track to the non-defective track list.
2. The method of claim 1, wherein the defect information indicates a distance between the target track and the next defective track.
3. The method of claim 1, wherein the non-defective track list is one of managed and renewed during operation of an HDD.
4. The method of claim 1, wherein track numbers and sector numbers representing defective sectors are written on the defect list.
5. The method of claim 1, wherein the non-defective track list is made with reference to the defect list.
6. The method of claim 1, wherein a previous target track which has already been accessed, a number of defects existing between a starting track of a zone and a target track, and a distance between the target track and a next defective track are stored on the defect list.
7. The method of claim 6, wherein the distance is measured in units of tracks.

8. A target track accessing method comprising:
 - receiving a read/write command from a host;
 - checking whether a target track is listed on a non-defective track list;
 - obtaining defect information from the non-defective track list when the target track is listed on the non-defective track list;
 - obtaining defect information from the defect list on the target track and information on a next defective track from the defect list when the target track is not on the non-defective track list and storing the defect information from the defect list on the target track and information on a next defective track on the non-defective track list; and
 - obtaining a physical address to access the target track based on the defect information obtained from the obtaining defect information from the non-defective track list when the target track is listed on the non-defective track list and obtaining defect information from the defect list when the target track is not on the non-defective track list.
9. The method of claim 8, wherein the defect information includes a number of defects in the target track and one of a number of defects existing between a starting track of a zone where the target track belongs and the target track and a number of defects between a starting point of a track and a desired sector.
10. A defect list search method comprising:
 - storing defect information on a target track and information on a next defective track;
 - accessing the stored defect information on the next defective track when a read/write command is received;
 - obtaining a physical address of a current target track by referring to defect information on the previous target track when a current target track to be accessed in response to the read/write command belongs to a track range indicated by the information on the next defective track,
 - wherein the next defective track indicates a track existing right next to the target track and including defective sectors, and
 - wherein the information on the next defective track indicates a distance between the target track and the next defective track.

11. A disc drive comprising:
 - a read/write channel circuit which receives a read/write command from a host;
 - a storage section which stores a non-defective track list and a defect track list;
 - a microprocessor which checks whether a target track is listed on the non-defective track list when the read/write command is received and obtains one of defect information from the non-defective track list when the target track is listed on the non-defective track list and defect information from the defect list on the target track and information on a next defective track from the defect list when the target track is not on the non-defective track list, stores the defect information from the defect list on the target track and information on a next defective track on the non-defective track list, and obtains a physical address to access the target track based on the defect information obtained from the obtaining defect information from the non-defective track list when the target track is listed on the non-defective track list and obtaining defect information from the defect list when the target track is not on the non-defective track list.